

ANNEXIN DERIVATIVES WITH ENDOGENOUS CHELATION SITES**Abstract of the Disclosure**

5 Modified annexins having an N-terminal chelation site comprising an amino acid extension are disclosed. The amino acid extension includes an amino acid sequence X_1 -Gly- X_2 , where X_1 and X_2 are selected from Gly and Cys, where at least one of X_1 or X_2 is Cys. Radionuclides are readily chelated by the modified annexins to provide radiolabeled annexins useful in imaging vascular thrombi and apoptosis *in vivo*.